UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

APR 0 3 2015

Mr. Paul V. Rosasco
Project Coordinator
Engineering Management Support, Inc.
7220 West Jefferson Avenue, Suite 406
Lakewood, Colorado 80235

Dear Mr. Rosasco:

The U.S. Environmental Protection Agency has reviewed the March 20, 2015 submittal titled "Phase 1D Investigation – Additional Characterization of Extent of Radiologically-Impacted Material in Area 1: Addendum to Phase 1 Work Plan for Isolation Barrier Investigation, West Lake Landfill Operable Unit-1, Bridgeton, Missouri" (Work Plan Addendum) prepared by Engineering Management Support, Inc. on behalf of Cotter Corporation (N.S.L.), Bridgeton Landfill, LLC., Rock Road Industries, Inc. and the United States Department of Energy. The document was submitted in response to the EPA's January 15, 2015 letter to the West Lake Landfill Superfund Site potentially responsible parties (PRPs) and in accordance with the Administrative Order on Consent, EPA Docket No. VII-93-F-0005.

Enclosed are the EPA's comments that will need to be incorporated into a revised Addendum. In order to expeditiously proceed with this characterization effort, the agency will allow the PRPs to proceed with Step 1 of the Field Investigation and Sample Collection and Analyses as described in the Work Plan Addendum in advance of receiving EPA approval of the revised Addendum to identify and locate the initial 14 gamma cone penetrometer test (GCPT) boring locations in the field. Approval of this step should allow for the planned mobilization to the site as quickly as possible.

Within 10 working days of your receipt of this letter, the PRPs must submit to the EPA a revised Addendum incorporating changes necessary to respond to the enclosed comments. If you have any questions regarding this letter or need further clarification on our comments, please email or contact me at (913) 551-7611.

Sincerely,

Brad Vann
Remedial Project Manager
Missouri/Kansas Remedial Branch
Superfund Division

Enclosure

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cc: Shawn Muenks, MDNR
Robyn Kiefer, USACE
Joe Benco, Republic

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The EPA Comments on the March 20, 2015 "Phase 1D Investigation – Additional Characterization of Extent of Radiologically-Impacted Material in Area 1: Addendum to Phase 1 Work Plan for Isolation Barrier Investigation, West Lake Landfill Operable Unit-1, Bridgeton, Missouri" (Work Plan Addendum)

1. **Pages 1-2, Scope of Work and Objectives of Investigation** – This section of the Work Plan Addendum needs to more clearly state that this investigation broadens the scope of the originally designed Phase 1 investigation such that in addition to collecting data for purposes of identifying potential locations for an isolation barrier, the scope of this work plan also includes fully identifying the extent of RIM contamination to the south and west of the previously defined boundaries of Operable Unit 1, Area 1.

2. **Pages 3-5, Field Investigation and Sample Collection and Analyses** – The work plan shall provide for RIM characterization south and west of Area 1 to be complete with this pending round of fieldwork. The work plan shall describe how the PRPs will perform additional bounding sampling near elevated locations to determine whether or not contamination extends outside these areas as discussed during the technical conference with EPA personnel on January 23, 2015. This includes establishing a no-Radiologically Impacted Material (RIM) boundary as defined in Section 1.1.1 "Bridgeton Landfill – West Lake Landfill Core Sampling (Phase 1B, 1C, and 2) Work Plan – Revision 1 (January 8, 2014) and performing additional sampling southward towards the North Quarry area and west of the original boundary of Area 1 to determine the extent of RIM in this area. The document also needs to clearly state that additional sampling beyond these 14 locations will occur if additional RIM is located, as the intent of this field mobilization is to define the extent. The text of the work plan shall indicate that this effort will be completed in one continuous field mobilization, with samples sent to the laboratory in batches as they are collected and with the borings being gamma-logged as soon as they are completed.

   The work plan shall also describe how the proposed additional sampling, along with historical sampling results in this area, provide sufficient support for a risk-based statistical analysis of the extent of RIM, as discussed in the technical meeting on January 23, 2015.

3. **Pages 3-5, Field Investigation and Sample Collection and Analyses** – The work plan shall identify a clear process for decision making while in the field for further investigation without another mobilization if RIM is found in the targeted investigation locations. The EPA expects sampling to begin along the points located north and south of 1971/1975 topographic intersect to confirm presence or absence of RIM (i.e., no-Rim boundary) and then proceed to the other points from that demarcation. The EPA understands from our discussions that the responsible parties do not anticipate RIM to be encountered at these locations and beyond. Regardless, prioritizing these GCPT and/or sonic borings for completion affords field personnel time to strategize and potentially secure other drilling equipment or perform the necessary logistical access work for the drilling equipment, if needed, should RIM be encountered at these points and require sampling farther south. Please amend the text clearly identifying investigation strategy and priority, accordingly.

4. **Pages 3-5, Field Investigation and Sample Collection and Analysis** - The work plan shall be modified to indicate that all field adjustments in sampling locations and methods require EPA approval, and at a minimum coordinated by teleconference, email or with the EPA representative onsite.

5. **Pages 3-5, Field Investigation and Sample Collection and Analysis** – The work plan indicates that a bottom sample will be obtained at the point where the GCPT readings return to normal. The work plan should specify that this is expected to be the bottom of the impacted area and below clean-up levels, even if there is refusal or if field personnel hit the formation below the landfill (not necessarily in waste) to ensure you have captured this bounding data.

6. **Pages 3-5, Field Investigation and Sample Collection and Analysis** – The text on pages 2 and 5 of the work plan discussing the sampling process and use of the identification of Potassium-40 in the gamma signature for identification of municipal solid waste versus RIM should be expanded. The work plan should more thoroughly describe how the differentiation will be made between radiological contaminants from a RIM source versus non-RIM/naturally occurring sources. The PRPs should consider and address in the work plan how the ratios of activity levels of radium may also be of use in this differentiation.

7. **Data Quality Objectives** – The work plan shall include appropriate modifications to the Data Quality Objectives described in the January 2014 Core Sampling Work plan – Revision 1 to comport with the broader scope of this investigation addendum. Those modifications should be described in the revised work plan. The DQOs should specify how to differentiate radiological contaminants from a RIM source versus non-RIM/naturally occurring sources. In addition the DQOs should support a risk-based statistical analysis of data associated with the extent of RIM, as identified in comment 2 above.

8. **Page 4, paragraph 6, first sentence** – (editorial correction) Please change "radioanalyses" to "radiological analyses".

9. **Pages 5-6, Reporting** – The work plan should indicate that upon completion of all Phase 1D field work and receipt of validated data, a comprehensive final report will be submitted. The work plan should indicate that the comprehensive final report will include a conclusion section as well as revised figures and maps that accurately depict and incorporate relevant site information (both historical and based on recent sampling results around OU1, Area 1 as some of the historical RI boundaries are now obsolete.) This final report is in essence a Remedial Investigation addendum that should fully capture all relevant investigation information performed to date and should update the conceptual site model with regards to RIM in OU1. The final report will be used in the preparation for the revised Supplemental Feasibility Study Report. Please amend the text where relevant and identify this expectation, accordingly.

10. **Pages 5-6, Reporting** – This list should also include copies of field notebooks if applicable in addition to the daily field logs. In addition, please specifically include in this list worker and work area related health and safety air monitoring results from the Thermoluminescent Dosimeter Monitors (TDMs); daily personnel radiation surveys, and four gas monitors.

11. **Page 6, Schedule** – The work plan must provide for a specific completion date calculated from the date of approval of the work plan. The planned completion dates for the list of generalized tasks shall also be calculated from the date of approval of the work plan. While the EPA understands such schedules are dynamic and subject to change based upon conditions in the field, the agency expects this schedule to be maintained throughout this effort. Updates on the work progression shall be provided within weekly and monthly reports, or earlier in the event of a significant work delay. If an extension of time is needed for final completion of the fieldwork or submission of the final report, the PRPs shall seek approval for such an extension from the EPA.

12. **Page 7, Project Team** – This section discusses providing the GCPT logs to P.J. Carey & Associates for

geotechnical property evaluation and future consideration of IB construction but will not include them in the report, as it will instead rely on the geologic logging and core samples. Regardless of interpretation or text reference, the EPA expects any field data collected during this effort to be included as an appendix to the final comprehensive report. Please revise this section of the work plan accordingly.

13. **Figure 1 Legend** - Map key shows symbol as Phase 1D Boring Locations (black and white boring symbols), which are actually completed historical borings. Please revise the figure key accordingly.